

Derwent Record

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Derwent Title: **Catalytic reduction of nitrogen oxides with urea in engine exhaust gas containing oxygen - uses vaporizer with hydrolysis catalyst coating that also catalyses reduction before or instead of reduction catalyst to increase effective temperature range and thermal stability**

Original Title: ☒ DE19734627C1: Vorrichtung und Verfahren zur katalytischen NO_x-Reduktion in sauerstoffhaltigen Motorabgasen

Assignee: **MAN NUTZFAHRZEUGE AG** Standard company
Other publications from MAN NUTZFAHRZEUGE AG (MAUG)...

Inventor: **EBERHARD J; JACOB E;**

Accession/Update: **1999-061758 / 200025**

IPC Code: **B01D 53/94 ; F01N 3/08 ; B01D 53/86 ; B01D 53/90 ; C01C 1/08 ; F01N 3/10 ; F01N 3/20 ; F01N 3/24 ; F01N 3/28 ;**

Derwent Classes: **E36; H06; J04; Q51;**

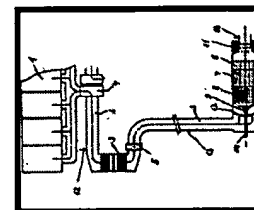
Manual Codes: **E10-A13B2**((Iso)urea, use) , **E11-Q02**(Removal, effluent treatment - processes, apparatus) , **E31-H01**(Removal of nitrogen oxides from waste gases etc. catalytically) , **E31-P02B**(Zeolite use) , **E31-P02D**(Non-zeolite use) , **H06-C03B** (Gaseous and liquid fuels - reduction of N oxides pollution control) , **J01-E02D**(Treating waste gases by catalytic methods) , **J04-E04**(Catalysts) , **N01-C02**(Alumina catalyst) , **N01-D02**(Silica, silicates catalyst) , **N03**(Other metal - element, (hydr)oxide, inorganic salt, carboxylate catalyst [general]) , **N06-B**(Other zeolite [general])

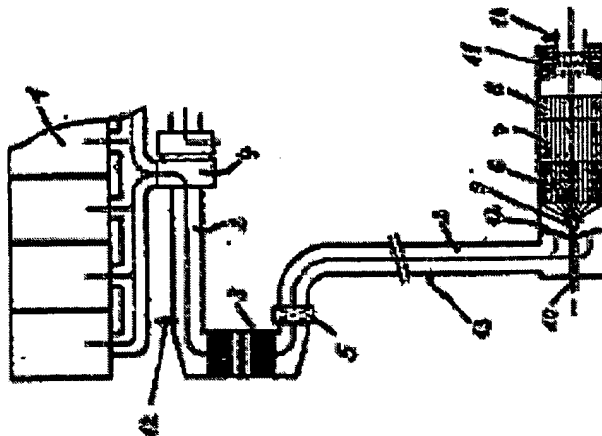
Derwent Abstract: (DE19734627C) Catalytic reduction of nitrogen oxides (NO_x) in engine exhaust gases containing oxygen (O₂), using urea as reducing agent, uses a coating on the vaporizer (6) to give it significant NO_x reduction activity, so that it reduces the load on the subsequent reduction catalyst or completely replaces this and reduces NO_x at 150-650 deg. C. Also claimed is apparatus with a coated vaporizer giving this result.

Use - The system is useful e.g. with diesel engines.

Advantage - The system is smaller and/or its components are arranged better than in an existing system using urea as reducing agent. The temperature range for NO_x conversion is increased from 250-550 deg. C to 150-650 deg. C and the thermal stability of the catalyst system is higher.

Images:





Dwg.1/3

Family:

PDF Patent	Pub. Date	Derwent Update	Pages	Language	IPC Code
<input checked="" type="checkbox"/> DE19734627C1 *	1999-01-14	199906	11	German	B01D 53/94
Local apps.: DE1997001034627 Filed:1997-08-09 (97DE-1034627)					
<input checked="" type="checkbox"/> JP03037661B2 =	2000-04-24	200025	7	English	F01N 3/08
Local apps.: Previous Publ. JP11125110 (JP 11125110) JP1998000221606 Filed:1998-08-05 (98JP-0221606)					
<input checked="" type="checkbox"/> JP11125110A =	1999-05-11	199929	9	English	F01N 3/08
Local apps.: JP1998000221606 Filed:1998-08-05 (98JP-0221606)					
<input checked="" type="checkbox"/> EP0896831A1 =	1999-02-17	199912	14	German	B01D 53/94
Des. States: (R) AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
Local apps.: EP1998000111235 Filed:1998-06-18 (98EP-0111235)					

INPADOC
Legal Status:

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First Claim:
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1. Vorrichtung zur katalytischen NO_x-Reduktion in sauerstoffhaltigen Motorabgasen unter Anwendung von Harnstoff als Reduktionsmittel, mit einem in der Abgasführung enthaltenen Reduktionskatalysator (7) und einem bekannten Verdampfer (6), der als Strömungsmischer und Hydrolysekatalysator ausgebildet ist und in dem Harnstoff zu Ammoniak (NH₃) und (CO₂) hydrolysiert wird, wobei die Oberfläche des Verdampfers (6) mit einer Abmischung aus Titandioxid TiO₂, Aluminiumoxid Al₂O₃, Siliciumoxid SiO₂, Zirkondioxid ZrO₂, Diniobpentoxid Nb₂O₅, Ditantalpentoxid Ta₂O₅, Wolframtrioxid WO₃ und/oder H-Zeolithe beschichtet ist, **dadurch gekennzeichnet**, daß dem Verdampfer (6) zusätzlich zur Strömungsmischung und katalytischen Hydrolyseaktivität, eine signifikante NO_x-Reduktionsaktivität aufgeprägt ist, um damit den nachgeschalteten Reduktionskatalysator (7) zu entlasten oder vollständig zu ersetzen und einen Arbeitstemperaturbereich der NO_x-Reduktion von 150–650°C zu schaffen.

Priority Number:

Application Number	Filed	Original Title
DE1997001034627	1997-08-09	

Chemical
Indexing Codes:

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Markush
Compound
Numbers:

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Specific

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Compound
Numbers:
Registry
Numbers:

02[M3]:1784U

Unlinked
Registry Numbers:
Related
Accessions:

0123U 1066U 1713U 1784U

Accession Number	Type	Derwent Update	Derwent Title
C1999-018571	C		
N1999-045778	N		
2 items found			

Title Terms:

CATALYST REDUCE NITROGEN UREA ENGINE EXHAUST GAS CONTAIN
OXYGEN HYDROLYSIS CATALYST COATING CATALYST REDUCE INSTEAD
REDUCE CATALYST INCREASE EFFECT TEMPERATURE RANGE THERMAL
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